The Relationship among Academic Self-Regulation, Academic Self-Efficacy and Anxiety regarding Academic Procrastination

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Abstract
This study aimed to investigate the relationship between academic self-regulation, academic self-efficacy and anxiety with academic procrastination among students of Payam Nour Universities in Arak and Qom in the 2013-2014 academic year. Through descriptive and correlational data analysis, the researcher sought to examine the question whether the main variables can predict academic procrastination perfectly or not? According to Morgans’ samples table, 385 subjects were invited to this study in order to investigate the hypotheses. The results showed that there is a negative relationship between academic self-regulation and academic self-efficacy and also there is a positive relationship between anxiety and academic procrastination. Also the linear regression analysis showed that academic self-regulation, academic self-Efficacy and anxiety are able to predict academic procrastination significantly.

Keywords: Academic procrastination, Academic self-regulation, Academic self-Efficacy, Anxiety

Introduction
Growth of human’s knowledge has lead into creation of a special position of formal education in people’s lives. Despite strong social motivation to study, low personal motivation was causing problems in the way of learning and education. Humans used every excuse for their negligence to the extent that these unacceptable acts became a habit of for them. While, not doing tasks causes fun and immediate gratification in people.

However, it creates a lot of guilt and anxiety and causes negative thoughts about themselves that its result was the loss of self-confidence and self-esteem. However, they couldn’t experience a lifetime of pleasure in the past and future for destroying a permanent pain. This issue attract the attention of many educational psychologists that why most people procrastination their work and delayed their quick tasks especially in matters related to education that this postpone the action caused many problems for those whose sometimes irretrievable (Eum & Rice, 2011, p. 26).

The study of effective factors on academic procrastination has been attracted more and more attention of education experts over the past few decades. Academic procrastination is important because the school's progress affects on learning and this learning affects on academic achievement, deeply. Psychologists suggest that the procrastination with many variables is related to character and behavior of individual. It could be mention to some of them as follows: Personality factors, mental health, personality disorders, low self-regulation, weak self-efficacy and anxiety (Steel, 2007, p. 9).

Self-efficacy is derived from of Albert Bandura 's social cognitive theory (1997, p. 17), which refers to individuals' beliefs or judgments on their abilities to perform the duties and responsibilities. Social cognitive theory is based on the causal model of tripartite of behavior, the environment and the individual. This model describes the relationship between behavior, environmental impact of individual factors (cognitive, emotional and biological), which refers to the perception of psychological functions.
According to this theory, people impact on their motivation and behavior in the path of a tripartite system. Bandura rejected the one-dimensional environment effects on the behavior of people that was one of the important hypotheses of behavioral psychological. Human has a system of self-regulation and has control on his feelings and behavior by its and plays a crucial role on his faith. One of the most important self-efficacy is academic self-efficacy that demonstrates the ability of the individual within the school (1997, p. 17).

Poor self-regulation is other factors that has proved its relationship with procrastination in previous researches. Self-regulation in learning mentions the role of individual in the process of learning. This concept was first proposed by Bandura in 1967. According to Bandura's theory of three-dimensional, the base of self-regulated learning is social recognition. He believes that the learning activities of individuals determined by three processes of personal, environment and behavior (Zimmerman, 2002, p. 45).

Academic self-regulation refers to better use of cognitive, metacognitive, resource management to maximize learning. Cognitive strategies applies to any behavior, thought and action aimed at helping to learning, organizing and storing knowledge and ease of utilization of them in the future.

Anxiety refers to a mental and emotional state that may be continues to a little discomfort to fear or acute panic.

Long and intense anxiety may lead to physical symptoms such as sweating, chills, nausea and dizziness. The anxiety is a reaction which generally occurs under conditions of fear and negative thoughts and escalates fear.

Adler believes that anxiety is lead from inferiority feeling and in his opinion every spring disorder such as anxiety attempt to drop a feeling of inferiority toward superiority that can lead to undesirable compensatory states (Eum and Rice, 2011, p. 28).

Since the academic procrastination is one of the criteria for the performance of the education system, detecting and studying variables that affect performance, will lead to a better understanding of prediction success at university. In multiple studies, adverse consequences for procrastination is mentioned: some of the negative effects are: get a low grade classroom, withdrew as education (Steel, 2010, p. 95), Cancel Education (Walters, 2003, p. 8), Persistent anxiety and depression (Dietz, Hofer & Fries, 2007, p. 11) low self-esteem (Steel, 2007, p. 23) Low progress (Ferrari & Patel, 2008, p. 36) chaos and confusion (Dewitte & Schouwenburg, 2008, p. 45), create scenarios and shame, humiliation. So the issue here is obvious that if it will pay well, we prevent the occurrence of many of these outcomes and with greater awareness to fight them.

According to the above discussions, the purpose of this study was to investigate the relationship between academic self-regulation academic self-Efficacy and anxiety with academic procrastination and the researchers were going to investigate the following hypotheses:

H1: There is a relationship between academic self-regulation and academic procrastination.
H2: There is a relationship between academic self-efficacy and academic procrastination.
H3: There is a relationship between anxiety and academic procrastination.
H4: Academic self-regulation, academic self-efficacy and anxiety are good predictors for academic procrastination.

Research method
This study is a descriptive and multivariate correlation research.

Population and sample
The study population consisted of 15000 university students in Qom and Arak studied in the academic year 2013-2014.
To obtain a sample for this study, based on Morgan table a sample of 375 people were needed that according to forecasts the dropping of the number, 400 questionnaires were distributed among subjects and were returned 385 questionnaires completely and statistical analyzes of the data was performed on these data.

In order to select the required sample, cluster sampling method was used. So, first the university's divided into two clusters and then each of the universities was divided into some clusters. Then, classes were selected among universities randomly and questionnaires were administered on students.

**Instruments**

Four questionnaires were used in order to obtain data for this study that included: academic procrastination, academic self-regulation, academic self-efficacy and anxiety that they are discussed below.

**Academic self-regulated questionnaire:** In order to measure academic self-regulated variable, it has been used academic self-regulated questionnaire by Savari (2011, p. 7), which has 30 articles and six memory strategy (5 items), goal setting (3 items), Self-assessing (6 items), Accountability (6 items), responsibility (4 items) and organization (6 female). Aforementioned questionnaire has been made by exploratory factor analysis on 200 PNU students of Ahvaz. Reliability obtained with Cronbach's alpha for the total scale 0.9, for the first factor 0.7, for the second factor 0.72, for the third factor 0.62, for the fourth factor 0.713, for the fifth factor 0.60 and for the sixth factor 0.70, respectively. The method for scoring it has been done as four-point scale from strongly disagree with a score of 1, I disagree with a score of 2, I agree with a score of 3 to totally agree with 4 scores.

**Scale efficacy:** by him and superego (1389) is made, and subject to any material Article 18 on a scale of five options (Azkhly low to high) includes occurs (quoted Soleimani and Hoveyda, 2013, Page 23).

**Self-efficacy questionnaire:** Scale efficacy scale: It is made by Oun & Framan (2010), and it has Article 18 and subjects reply to any material on a scale of five options (very low to very high) (quoted by Soleimani and Hoveyda, 2013, p. 23).

Oun and Framan to check reliability of this questionnaire run on 88 subjects. The reliability of this scale by doing retest within 8 weeks was 0.90. Chun and Choi (2005, p. 35) have reported internal consistency of the questionnaire 0.93. Cronbach's alpha and test-retest reliability of the scale reported 0.79 and 0.37, respectively.

Also, to evaluate the reliability of the correlation between self-efficacy and test anxiety, test anxiety showed that there was a significant correlation that was 0.061. In the present study, reliability of this test by using Cronbach's alpha was 0.85, respectively. Samadi (2004, p. 41) to evaluate the psychometric properties were performed the questionnaire on over 320 students (188 females and 132 males). The internal consistency has been obtained 0.91 for men and 0.91 for women for the whole test and showing that this instrument has good reliability.

**Academic procrastination questionnaire:** This questionnaire made and standardized by Savari (2011). It was used exploratory factor analysis to make the above-mentioned test. Exploratory factor analysis showed that the data after six rotations were made the test consists of 12 articles and three factors as intentional procrastination (5 items), Procrastination leads from physical and mental fatigue (4 items) and procrastination due to the lack of program (3 items.) Test reliability through Cronbach's alpha for the total test was obtained 0.85. The validity of this test was estimated due to correlate with procrastination test by Tukman (1991) and determine the amount of 0.65 that indicated the validity of the test is fairly good (according to Savari, 2011, p. 11).
Beck Anxiety questionnaire: It is a self-report questionnaire to measure the intensity of anxiety in adolescents and adults. This questionnaire consists of 21 items. Subjects selected one of the four options that reflects the anxiety of the test. Each of items describes a common symptom of anxiety (mental symptoms, physical and fear). Studies show the validity and reliability of the questionnaire. The internal consistency coefficient is 0.92 that its reliability test-retest interval of one week was 0.75 and solidarity in items was various between 0.30 to 0.76. Five types of content validity, concurrent, structural, and functional measured for this test that they represent the efficiency of this tool to measure the severity of anxiety (Beck, Koons and Milgram, 2000, p. 45).

Ghadimi (2014, p. 17) reported reliability of the test by test-retest method within two weeks. Also report Karami (2009) in investigation on the psychometric characteristics of the test have reported validity coefficient about 0.72 and test-retest reliability as 0.83 for one month by Cronbach's alpha. To analyze the data that are obtained from this study were used descriptive statistics such as mean, standard deviation, variance and inferential statistical methods including correlation and multiple regression.

Data analysis and Results
Before addressing the results of the data analysis, it is required the data to be reported by the descriptive statistics. Table 1 shows the indicators:

<table>
<thead>
<tr>
<th>Variance</th>
<th>SD</th>
<th>Mean</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Amplitude</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>44.390</td>
<td>6.66261</td>
<td>37.3738</td>
<td>56</td>
<td>11</td>
<td>45</td>
<td>385</td>
</tr>
<tr>
<td>151.334</td>
<td>12.30179</td>
<td>38.5961</td>
<td>57</td>
<td>27</td>
<td>30</td>
<td>385</td>
</tr>
<tr>
<td>486.575</td>
<td>22.06256</td>
<td>84.2531</td>
<td>113</td>
<td>43</td>
<td>70</td>
<td>385</td>
</tr>
<tr>
<td>94.117</td>
<td>9.70140</td>
<td>28.8714</td>
<td>42</td>
<td>10</td>
<td>32</td>
<td>385</td>
</tr>
</tbody>
</table>

In order to investigate three first hypotheses Pearson correlation and multivariate regression was used to examine the fourth hypothesis that are describe below:

First hypothesis: There is a relationship between academic self-regulation and academic procrastination.

To test this hypothesis the Pearson correlation coefficient was used and the results are as follows:

<table>
<thead>
<tr>
<th>Academic procrastination</th>
<th>Academic self-regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.65</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>-.65</td>
</tr>
</tbody>
</table>

As implies from the results, there is a significant relationship between academic self-regulation and academic procrastination and it is 0.65, ie, the higher academic self-regulation, the lower academic procrastination. So, the first hypothesis is confirmed.

Second hypothesis: There is a relationship between academic self-efficacy and academic procrastination.

To test this hypothesis the Pearson correlation coefficient was used and the results are as follows.
Table 3: The result of Pearson correlation between academic self-efficacy and academic procrastination.

<table>
<thead>
<tr>
<th>Academic Procrastination</th>
<th>Academic Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.76</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>-.76</td>
</tr>
</tbody>
</table>

As the results of the correlation test indicated there is a significant relationship between academic self-efficacy and academic procrastination and it is as 0.76, ie, the higher academic self-efficacy ,the lower academic procrastination .So, the second hypothesis is confirmed.

*Third Hypothesis:* There is a relationship between anxiety and academic procrastination. Pearson correlation coefficient was used for the third hypothesis is that the results are reported below.

Table 4: Pearson correlation test between anxiety and academic procrastination

<table>
<thead>
<tr>
<th>Academic Procrastination</th>
<th>Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>.67</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>.67</td>
</tr>
</tbody>
</table>

As the results of the correlation test indicated there is a significant relationship between anxiety and academic procrastination and it is 0.67. It means, the higher the anxiety ,the higher academic procrastination and the lower anxiety ,the lower academic procrastination. So, the third hypothesis is confirmed.

*Fourth hypothesis:* Academic self-regulation, academic self-efficacy and anxiety are good predictors for academic procrastination

If a researchers want to investigate the relationship between two or more predictor variables with the criterion variable ,they will use multiple regression. So regression was used to examine this hypothesis and its results to be reported below.

Table 5: The results of the relationship among academic self-regulation, academic self-efficacy, anxiety with academic procrastination

<table>
<thead>
<tr>
<th>Estimated standard deviation</th>
<th>Regulated R2</th>
<th>R2</th>
<th>R</th>
<th>model</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.99214</td>
<td>.809</td>
<td>.817</td>
<td>.904</td>
<td>1</td>
</tr>
</tbody>
</table>

In regression analysis, R-squared is an important number to indicate the degree of success of the chosen model for relationships between variables. The larger this number reflects the strong relationship between selected variables.

Table 6: Beta coefficient to predict academic procrastination from the variables of academic self efficacy, academic self-regulation and anxiety

<table>
<thead>
<tr>
<th>Non Standards coefficient</th>
<th>B coefficient</th>
<th>Standard error</th>
<th>Standards coefficient</th>
<th>Beta coefficient</th>
<th>T</th>
<th>sig</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>B coefficient</td>
<td>31.158</td>
<td>3.513</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stable</td>
</tr>
<tr>
<td>-.072</td>
<td>-.071</td>
<td>.041</td>
<td>-.072</td>
<td>-.158</td>
<td>8.870</td>
<td>.000</td>
<td>Academic self efficacy</td>
</tr>
<tr>
<td>-.160</td>
<td>-.287</td>
<td>.040</td>
<td>-1.758</td>
<td>.080</td>
<td></td>
<td></td>
<td>Academic self-regulation</td>
</tr>
<tr>
<td>-.019</td>
<td>-.053</td>
<td>.027</td>
<td>-4.031</td>
<td>.000</td>
<td></td>
<td></td>
<td>Anxiety</td>
</tr>
<tr>
<td>-.120</td>
<td>-.052</td>
<td>.040</td>
<td>-2.976</td>
<td>.003</td>
<td></td>
<td></td>
<td>Academic procrastination</td>
</tr>
</tbody>
</table>
Here the number of predictor variables has been obtained 0.904 that indicating these variables are good predictors for academic procrastination. So, the fourth hypothesis is confirmed. In the following table, B and beta coefficients are reported for this model.

In this table, t-values and any significant level points to the impact each of predictive variables briefly. Big value of absolute t and small value of p indicates that the predictor variables affect the dependent variable (Brace, Camp & Slangar, translated by Ali Abadi and Samadi, 2011, p. 195). Standardized beta coefficients to assess the contribution of each variable in the model present a size in terms of standard deviation. Beta anticipated change in standard deviation criterion variable to change a standard deviation predictor variable (while controls other predictor variables). For example, if academic self-efficacy increases one standard deviation, it can predict academic procrastination will change -0.71 standard deviation.

**Conclusion**

Statistical analysis showed that there is a relationship between academic self-regulation and academic procrastination. This means that the higher academic self-regulation, the lower the academic procrastination in students and the lower academic self-regulation, the higher academic procrastination. These findings are consistent with Howell and Watson (2007, p. 27), Ferrari (2006, p. 42) and Wendelien (2008, p. 19). To explain these findings, we can say that self-regulation enables subjects control their thoughts, emotions, motivation and behavior. The higher a person's academic self-regulation can more easily thoughts, feelings, and ultimately control their behavior. So, the high levels of academic self-regulation in a person can cause in do better his/her activities and homework and has less procrastination.

The results showed that there is a relationship between academic self-efficacy and academic procrastination. These findings are consistent with Farran (2009, p. 33), Durden (2011, p. 18) and Corkin & et all (2014, p. 96). In explaining this finding can be say that people who have these features expect success in facing with the problems, and in their efforts are far more steadfast and trust their abilities and do not drown on their doubts, so they are hard work in doing their homework and their performance is in high level. Ellis & Knaus (2004, p. 53) pointed out that procrastination creates as a result of the lack self-efficacy performance and know that behavioral orientation to delay what is necessary to achieve the objective.

Additionally, the results also showed that there is a positive relationship between anxiety and academic procrastination. These findings are consistent with finding of Eum and Rice (2011, p. 27), Champika, Soysa and Weiss (2014, p. 88) and Burka and Yuen (2008, p. 62). To explain these findings, we can say that the students have a tendency to procrastination while they are writing, reading tests and completion of assignments that is often stressful.

Students often hard to escape the anxiety of an activity or homework and trying to delay it as possible as to postpone it to the other time. Also, this delay could be a temporary relief for them to develop and strengthen the peace as an opportunity for them and this strengthen is the cause of repeated procrastination in later situations of their life.

Also, the results indicated that academic self-regulation, academic self-efficacy and anxiety are predictors for academic procrastination. This finding is consistent with the findings of Beck, Koons and Milgrim (2000, p. 69), Abry (2006, p. 45) and Burka, & Yuen (2008, p. 63). To explain these findings, we can say that on the one hand high anxiety can reduce the academic self-efficacy and self-regulation of subjects and on the other hand, low academic self-efficacy and self-regulation in any activity can cause increased anxiety. All these factors ultimately lead to procrastination at work. But if this vicious cycle reverse, it also will be very useful. This means that high academic self-efficacy and self-regulation can be reduce anxiety and this reduction leads to a
reduction in one's procrastination. In this case, it can be expected the best performance about students' activity in university.

**Limitation of the study**

In order to conduct this study, the researchers were faced with difficulties and restrictions that here are mentioned two examples of these limitations:

1. Organizational boundaries in order to obtain a license for the distribution of questionnaires: Unfortunately, many university authorities did not allow the researchers to enter to the University and even with the permission of the Department of Education and some universities still some universities prevented to distribute the questionnaires among the students of the university.

2. Inability to control some confounding variables in research: some students did not have enough attention to the questions while filling it may be for reasons such as boredom or lack of concentration and this is another one of the variables that can affect on how they respond. Of course, in order to control this issue, in time of the implementation of the questionnaire, the researchers also attended in the classes. In case of any problems check them and remove flawed questionnaires quickly.

**Implications of the study**

The results of this research can be extracted practical suggestions that they can help to reduce the rate of procrastination in students. Some of these suggestions are as follows:

1. Informing the students about procrastination and its consequences through workshops within the university.

2. Making the students aware of demographic variables correlated with academic procrastination that is also another suggestion that can be done with the students acquainted with individual factors associated with academic procrastination in order to help them have better understand and struggle with academic procrastination.

3. Enhance self-efficacy, self-regulation and motivation within academic students through educational workshops is recommended as another way to reduce their procrastination.

4. Reduce the burden of test anxiety when students' anxiety is an important factor for their procrastination.

**References**


Openly accessible at [http://www.european-science.com](http://www.european-science.com)


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